

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original): A titania nanotube having a length of 1  $\mu\text{m}$  or more.
2. (original): The titania nanotube according to Claim 1 the diameter is 0.1  $\mu\text{m}$  or less.
3. (original): The titania nanotube according to Claim 1 or 2 wherein the aspect ratio is 100 or more.
4. (currently amended): A sensor having the titania nanotube according to ~~any of Claims 1 to 3~~Claim 1 or 2 and an electrode in which the titania nanotube and the electrode are connected.
5. (original): A method for producing a titania nanotube, comprising a step of dispersing a titania powder in a sodium hydroxide aqueous solution at a temperature of 60°C or more.
6. (original): The method according to Claim 5 wherein the titania powder has an average particle diameter of 50 nm or less.
7. (original): The method according to Claim 5 or 6 wherein the amount of the titania powder is 0.01 part by weight or more and 0.1 part by weight or less based on 100 parts by weight of a sodium hydroxide aqueous solution.

8. (currently amended): The method according to ~~any of Claims 5 to 7~~Claim 5 or 6, wherein the sodium hydroxide aqueous solution has a concentration of sodium hydroxide of 1 M or more and 15 M or less.

9. (original): The method according to Claim 8 wherein the sodium hydroxide aqueous solution has a concentration of sodium hydroxide of 3 M or more and 13 M or less.

10. (original): The method according to Claim 9 wherein the sodium hydroxide aqueous solution has a concentration of sodium hydroxide of 7 M or more and 12 M or less.

11. (currently amended): The method according to ~~any of Claims 5 to 10~~Claim 5, wherein dispersion is conducted at 90°C or more and 120°C or less.

12. (currently amended): The method according to ~~any of Claims 5 to 11~~Claim 5, wherein dispersion is conducted by stirring or irradiation with an ultrasonics.

13. (original): The method according to Claim 12 wherein dispersion is conducted by stirring.

14. (new): A sensor having the titania nanotube according to Claim 3 and an electrode in which the titania nanotube and the electrode are connected.

15. (new): The method according to Claim 7, wherein the sodium hydroxide aqueous solution has a concentration of sodium hydroxide of 1 M or more and 15 M or less.